

CLAIMS

We claim:

1. In a receiving node of a wireless network that is able to receive packets that exactly or substantially conform to a wireless network standard, each packet including a header that includes, in the case that the packet exactly conforms to the standard, bits having respective correct values, including unused bits set to a known value and combinations of bits being expected combinations, a method comprising:
 - receiving a start-of-packet (SOP) trigger that indicates that a packet may have been received ;
 - checking one or more unused bits in the header to determine whether or not they have their respective correct values,
 - continuing to process the packet in the case that the checking indicates that the checked unused bits have their respective preset values.
2. A method as recited in claim 1, wherein the header of a packet receivable by the node includes a first field modulated at a known rate and including one or more unused bits, and a second field modulated at a data rate indicated in the first field, the checking including:
 - processing the first field and checking one or more bits in the first field to determine whether or not they have their respective correct values; and
 - if the checked bits of the first field have their respective correct values, checking the second field for integrity.
3. A method as recited in claim 2, wherein the checking one or more bits in the first field to determine whether or not they have their respective correct values includes checking one or more unused bits of the first field to determine whether or not they have their respective correct values.

4. A method as recited in claim 2, wherein the checking one or more bits in the first field to determine whether or not they have their respective correct values includes checking whether or not one or more combinations of bits in the first field are unexpected.
5. A method as recited in claim 2, wherein the packet optionally includes an indication of whether or not unused bits of the second field include an error detecting code formed from at least part of the first field, and wherein the checking the second field for integrity includes:
 - checking the indication to ascertain whether or not unused bits of the second field include an error detecting code;
 - if it is ascertained that such an error detecting code is included, checking the included error correcting code; and
 - if it is ascertained that an error detecting code is not included, checking one or more unused bits in the second field to determine whether or not they have their respective preset values.
6. A method as recited in claim 2, wherein the checking the second field for integrity includes:
 - checking one or more unused bits in the second field to determine whether or not they have their respective preset values.
7. A method as recited in claim 2, wherein the receiving node is able to receive packets that conform to one or more of the IEEE 802.11 OFDM standards, wherein the first field is a SIGNAL field modulated at a known data rate and wherein the second field is a SERVICE field modulated at a data rate indicated in the SIGNAL field.
8. A method as recited in claim 2, further comprising:
 - providing a measure of the received signal quality; and
 - checking whether the received signal quality measure is above a set level,

such that the SOP trigger is ascertained to be a false trigger in the case that the received signal quality measure is not above the set level.

9. A method as recited in claim 8, wherein the measure of the received signal quality is a measure of the error vector magnitude (EVM).
10. A method as recited in claim 8, wherein the measure of the received signal quality is a measure of the signal to adjacent-channel-interference ratio.
11. A method as recited in claim 2, wherein the receiving node includes a PHY processor and a MAC processor; and wherein the checking of the one or more bits in the first field occurs in the PHY processor.
12. A method as recited in claim 2, wherein the receiving node includes a PHY processor and a MAC processor; and wherein processing of the first field is by the PHY processor and includes providing the processed data of the first field to the MAC processor, and wherein the checking of the one or more bits in the first field includes the MAC processor accepting the processed data of the first and checking the one or more bits in the first field.
13. A method as recited in claim 9, wherein the receiving node includes a PHY processor and a MAC processor; and wherein the PHY processor provides a measure of the EVM to the MAC processor, such that the checking of whether the received EVM is above a set level includes the MAC processor accepting the EVM measure from the PHY processor and checking whether accepted received EVM is above the set level.
14. A PHY processor of a node of a wireless network to wirelessly receive packets that exactly or substantially conform to a wireless network standard, each packet including a header that includes, in the case that the packet exactly conforms to the standard, bits having respective correct values, including unused bits set to a known value and combinations of bits being expected combinations, the receiving node including a MAC processor having an input coupled to the output of the PHY processor, the PHY processor comprising:

an SOP detector to provide a start-of-packet (SOP) trigger that indicates that a packet may have been received;

a receive signal processor to process modulated packet data and provide the processed data to the MAC processor; and

a receive controller coupled to the SOP detector and the receive signal processor, the receive controller configured to:

accept an SOP trigger from the SOP detector that indicates that a packet may have been received;

after such an SOP trigger is accepted, check one or more bits in the header to determine whether or not they have their respective correct values,

such that the checking indicating that the checked bits do not have their respective correct values indicates that the SOP trigger is a false SOP trigger.

15. A PHY processor as recited in claim 14, wherein the header of a packet receivable by the node includes a first field modulated at a known rate and including one or more unused bits, and a second field modulated at a data rate indicated in the first field, and whether the checking by the receive controller includes:

after the receive processor processes the first field, checking one or more bits in the first field to determine whether or not they have their respective correct values; and

if the checked bits of the first field have their respective correct values, checking the second field for integrity.

16. A method as recited in claim 15, wherein the checking one or more bits in the first field to determine whether or not they have their respective correct values includes checking one or more unused bits of the first field to determine whether or not they have their respective preset values.

17. A method as recited in claim 15, wherein the checking one or more bits in the first field to determine whether or not they have their respective correct values includes checking whether or not one or more combinations of bits in the first field are unexpected.
18. A PHY processor as recited in claim 15, wherein the packet optionally includes an indication of whether or not unused bits of the second field include an error detecting code formed from at least part of the first field, and wherein the checking the second field for integrity includes:
 - checking the indication to ascertain whether or not unused bits of the second field include an error detecting code;
 - if it is ascertained that such an error detecting code is included, checking the included error correcting code; and
 - if it is ascertained that an error detecting code is not included, checking one or more unused bits in the second field to determine whether or not they have their respective preset values.
19. A PHY processor as recited in claim 15, wherein the checking the second field for integrity includes:
 - checking one or more unused bits in the second field to determine whether or not they have their respective preset values.
20. A PHY processor as recited in claim 15, wherein the PHY processor is able to receive packets that conform to one or more of the IEEE 802.11 OFDM standards, wherein the first field is a SIGNAL field modulated at a known data rate and wherein the second field is a SERICE field modulated at a data rate indicated in the SIGNAL field.
21. A PHY processor as recited in claim 15, further comprising:
 - a signal quality calculator to provide a measure of the received signal quality;
 - the receive controller further configured to

accept the received signal quality measure from the signal quality calculator; and

check whether the received signal quality measure is above a set level, such that the SOP trigger is ascertained to be a false trigger in the case that the received signal quality measure is not above the set level.

22. A PHY processor as recited in claim 21, wherein the signal quality calculator is an error vector magnitude (EVM) calculator to provide a measure of the error vector magnitude (EVM).

23. A control means for inclusion in a receiving node of a wireless network that is able to receive packets that exactly or substantially conform to a wireless network standard, each packet including a header that includes, in the case that the packet exactly conforms to the standard, bits having respective correct values, including unused bits set to a known value and combinations of bits being expected combinations, a control means comprising:

means for receiving a start-of-packet (SOP) trigger that indicates that a packet may have been received ;

means for checking one or more bits in the header to determine whether or not they have their respective correct values,

means for continuing to process the packet in the case that the checking indicates that the checked bits have their respective correct values.

24. A control means as recited in claim 23, wherein the header of a packet receivable by the node includes a first field modulated at a known rate and including one or more unused bits, and a second field modulated at a data rate indicated in the first field, the means for checking including:

means for checking one or more bits in the first field to determine whether or not they have their respective correct values; and

means for checking the second field for integrity if the checked bits of the first field have their respective correct values.

25. A control means as recited in claim 24, wherein the packet optionally includes an indication of whether or not unused bits of the second field include an error detecting code formed from at least part of the first field, and wherein the means for checking the second field for integrity includes:

means for checking the indication to ascertain whether or not unused bits of the second field include an error detecting code;

means for checking the included error correcting code if it is ascertained that such an error detecting code is included; and

means for checking one or more unused bits in the second field to determine whether or not they have their respective preset values if it is ascertained that an error detecting code is not included.

26. A control means as recited in claim 24, wherein the means for checking the second field for integrity includes:

means for checking one or more unused bits in the second field to determine whether or not they have their respective preset values.

27. A control means as recited in claim 24, further comprising:

means for providing a measure of the received signal quality; and

means for checking whether the received signal quality measure is above a set level, such that the SOP trigger is ascertained to be a false trigger in the case that the received signal quality measure is not above the set level.

28. A control means as recited in claim 27, wherein the measure of the received signal quality is a measure of the error vector magnitude (EVM).

29. A carrier medium including one or more computer readable code segments to instruct one or more processors of a processing system to implement a method in a receiving node of a wireless network that is able to receive packets that exactly or substantially conform to a wireless network standard, each packet including a header that includes, in the case

that the packet exactly conforms to the standard, bits having respective correct values, including unused bits set to a known value and combinations of bits being expected combinations, the method comprising:

receiving a start-of-packet (SOP) trigger that indicates that a packet may have been received ;

checking one or more unused bits in the header to determine whether or not they have their respective correct values,

continuing to process the packet in the case that the checking indicates that the checked bits have their respective correct values.

30. A carrier medium as recited in claim 29, wherein the header of a packet receivable by the node includes a first field modulated at a known rate and including one or more unused bits, and a second field modulated at a data rate indicated in the first field, the checking including:

processing the first field and checking one or more bits in the first field to determine whether or not they have their respective correct values; and

if the checked bits of the first field have their respective correct values, checking the second field for integrity.

31. A carrier medium as recited in claim 30, wherein the packet optionally includes an indication of whether or not unused bits of the second field include an error detecting code formed from at least part of the first field, and wherein the checking the second field for integrity includes:

checking the indication to ascertain whether or not unused bits of the second field include an error detecting code;

if it is ascertained that such an error detecting code is included, checking the included error correcting code; and

if it is ascertained that an error detecting code is not included, checking one or more unused bits in the second field to determine whether or not they have their respective preset values.

32. A carrier medium as recited in claim 30, wherein the checking the second field for integrity includes:

checking one or more unused bits in the second field to determine whether or not they have their respective preset values.

33. A carrier medium as recited in claim 30, wherein the receiving node is able to receive packets that conform to one or more of the IEEE 802.11 OFDM standards, wherein the first field is a SIGNAL field modulated at a known data rate and wherein the second field is a SERICE field modulated at a data rate indicated in the SIGNAL field.